

A new species of *Gynochtodes* Blume (Rubiaceae) from north east Queensland

D.A. Halford

Summary

Halford, D.A. (2004). A new species of *Gynochtodes* Blume (Rubiaceae) from north east Queensland. *Austrobaileya* 6 (4): 891-894. *Gynochtodes sessilis* Halford is described, illustrated and compared with *Gynochtodes australiensis* J.T.Johanss. Notes on habitat and distribution are provided.

Key words: *Gynochtodes*, taxonomy, Australian flora, *Gynochtodes sessilis*, Rubiaceae

D.A. Halford, c/- Queensland Herbarium, Environmental Protection Agency, Brisbane Botanic Gardens Mt Coot-tha, Mt Coot-tha Road, Toowong, Queensland 4066, Australia

Introduction

Johansson (1988) reported the genus *Gynochtodes* Blume from Australia for the first time with the description of *G. australiensis* J.T.Johanss. based on material from the headwaters of East Alligator River in the Northern Territory. In his circumscription of this species he included two collections from north eastern Queensland, namely A.S. & M.G. Thorsborne 337 (BRI) collected from Hinchinbrook Island and V. Scarth-Johnson 1109A (BRI) collected from near Bamaga. In regards to the collection from Hinchinbrook Island, he noted that it differed from the Northern Territory collections by having longer acuminate leaf-tips and more compressed inflorescences. However, Johansson considered that there was insufficient material to draw any taxonomic conclusion.

As a result of the examination of a number of fertile collections that are now available at the Queensland Herbarium (BRI) from north east Queensland I believe that the taxon represented by the collection (A.S. & M.G. Thorsborne 337) is specifically distinct from *G. australiensis* and is here named *Gynochtodes sessilis*.

The collection from Bamaga, V. Scarth-Johnson 1109A, is here maintained under the name *G. australiensis* as it has inflorescences that are shortly pedunculate. However, it differs from Johansson's circumscription of that species by its generally shorter and broader leaves, its sparse to moderately dense

indumentum of erect unicellular hairs (< 0.1 mm long) on young branchlets and is reportedly a tree (collectors notes). This population warrants further study to establish the significance of these differences.

Measurements of flowers and fruit in this account are taken from material preserved in spirit at BRI. This work is part of current studies being undertaken by the author into the tribe Morindeae (Rubiaceae) in Queensland.

***Gynochtodes sessilis* Halford sp. nov.** arcte affinis *G. australiensis* autem floribus fructibusque sessilibus, foliis plerumque grandioribus (9.5–19 × 3–6 (–7.5) cm comparitis 5–13 × 1.6–5 cm) apicibus longioribus acuminatis instructis, calycibus pubescentibus non glabris differt. A *G. coriacea* Bl. floribus fructibusque sessilibus, floribus comparate grandioribus, calycibus pubescentibus domatiis carentibus distinguenda. **Typus:** Queensland. Cook District: State Forest 607 Dinden, Bridle Creek track, 15 Jan 2002, P.I. Forster PIF28124 R. Booth & R. Jensen (holo: BRI; iso: A, BISH, DNA, L, MEL, MO, P, Z, distribuendi).

Gynochtodes sp. (Hinchinbrook Island A.S.Thorsborne+ 337), (Forster & Halford 2002).

Woody liana, becoming somewhat shrubby in open situations. Young branchlets terete, glabrous, smooth. Stems blackish in colour with wart-like lenticels. Bark and sapwood becoming purple to dark violet when cut. Raphides present. Stipules interpetiolar, sheathing, with

short triangular lobe, 1–2 mm long, chartaceous, glabrous except for minute hairs (< 0.2 mm long) on margin, fragmenting as node thickens. *Leaves* decussate, glabrous, usually drying black; petioles plano-convex, 1–2 cm long; laminae narrowly obovate to obovate or narrowly elliptic to elliptic, 9.5–19 cm long, 3–6 (–7.5) cm wide, length/width ratio 2–3:1, coriaceous, glossy dark green adaxially and paler abaxially when fresh, turning ± black when dried; base obtuse to broadly cuneate; margins entire; apex obtuse or usually acuminate with acumen up to 1 cm long; venation brochidodromous, with midrib raised slightly adaxially and strongly abaxially when dried; lateral, intramarginal and interlateral veins slightly raised on both surfaces when dried; lateral veins 7–10 per side of midrib, at c. 60–70° to the midrib; intramarginal veins 2–4 mm from margin; interlateral veins reticulate; domatia absent. *Flowers* unisexual (?), axillary, fasciculate, with up to 12 in each cluster, sessile; calyx cup-shaped, c. 2 × 2 mm, green, sparsely hairy with minute erect hairs (< 0.05 mm long); limb c. 0.5 mm long, glabrous adaxially, truncate, with minute erect hairs on margin; corolla cream-yellow or white when fresh, turning black when dried, sparsely hairy abaxially with minute erect hairs; corolla tube ± cylindrical, 1–2.5 mm long, glabrous abaxially except for scattered minute erect hairs proximally; corolla lobes (3) 4 (5), narrowly obovate, 6–7 mm long, 1.5–3.3 mm wide, densely villose for the proximal two thirds adaxially, ± cucullate at apex; stamens 4, exserted, inserted at corolla lobe sinuses; filaments terete, 2–3 mm long, glabrous; anthers oblong c. 2.7 mm long; ovary bilocular, ovules 2 in each locule, with false septum in the upper part appearing to divide each into 2, funiculus inserted at base of dissepiment; style absent; stigma bifid, c. 0.2 mm long. *Fruit* a drupe, globose to ellipsoid, 12–14 mm long, 9–14 mm diameter, 1–4-seeded, glabrous; epicarp, black, brittle; mesocarp black, pulpy with pungent aroma. **Fig. 1.**

Selected specimens: Queensland: COOK DISTRICT. Mt Cook NP, 0.5 km NE of summit, Feb 1993, *D.G. Fell* DGF2858 & *J.P. Stanton* (BRI); State Forest 607 Dinden, Bridle Creek track, Jan 2002, *P.I. Forster* PIF28127, *R. Booth* & *R. Jensen* (BRI); NPR 164, Parish of Noah, Oliver Creek, Jun 1987, *B. Gray* 04483 (BRI); SFR 607, Shoteel logging area, May

1982, *B. Gray* 20203v (BRI); Cairns, Hills Creek, Jan 1994, *C. Lyons* 152 (BRI). NORTH KENNEDY DISTRICT. SFR 299, Conway, Cedar Creek, May 1975, *B. Hyland* 08238 (BRI); Hinchinbrook Island, Dec 1976, *A.S. & M.G. Thorsborne* 337 (BRI); upper reach of Deluge Inlet, Hinchinbrook Island, May 1972, *L.J. Webb* & *J.G. Tracey* 11186 (BRI).

Distribution and habitat: Occurs in north east Queensland, where it has been collected in coastal and subcoastal areas from Mt Cook National Park near Cooktown southwards to Hinchinbrook Island, with a disjunct population in the Conway Range near Proserpine (**Map 1**). It is commonly recorded growing from near sea-level to 520 m altitude in simple or complex notophyll rainforest mostly on alluvial soils derived from various substrates.

Phenology: Flowers have been recorded from June to November, fruits from April to June and August.

Affinities: *Gynochtodes sessilis* is closely related to *G. australiensis* but differs from that by its sessile flowers and fruits, its generally larger leaves (9.5–19 × 3–6 (–7.5) cm compared with 5–13 × 1.6–5 cm), its longer acuminate leaf apices and its hairy rather than glabrous calyces. *Gynochtodes sessilis* can be distinguished from *G. coriacea* Blume by its sessile flowers and fruits, comparatively larger flowers, hairy calyces and lack of domatia.

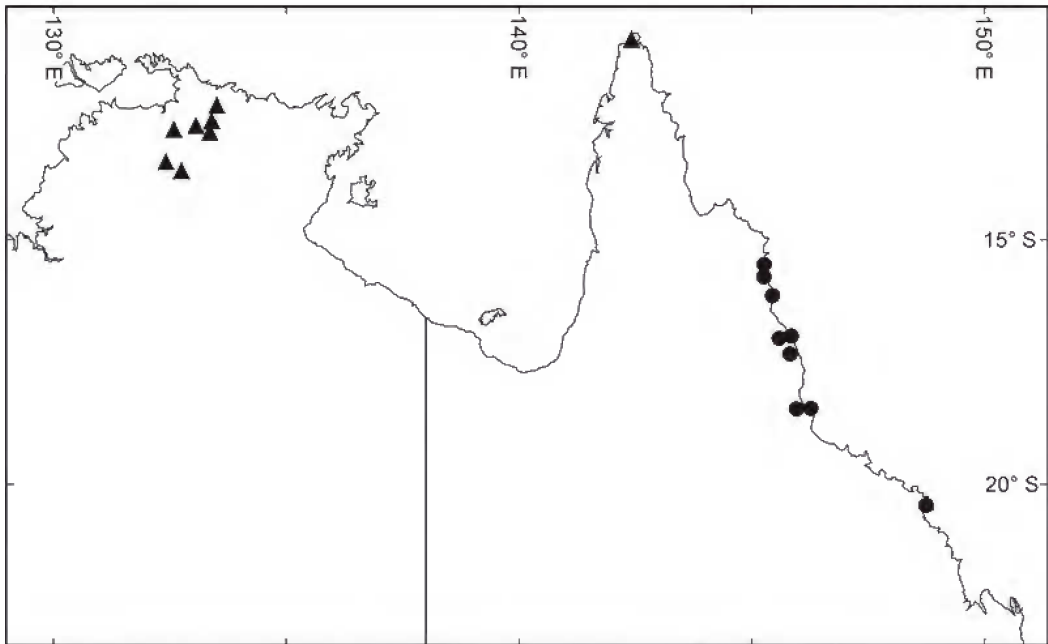
Notes: All flowering collections (*C. Lyon* 152; *A.S. & M.G. Thorsborne* 337; *P.I. Forster* PIF28124, *R. Booth* & *R. Jensen*; *P.I. Forster* PIF28127, *R. Booth* & *R. Jensen*) of *G. sessilis* that have been examined during this study are tentatively interpreted as having unisexual flowers as they lacked a well developed style and stigma. However, the ovaries are well developed with what appears to be functional ovules. Further flowering material is required to assess what reproductive strategies are present in this species.

The flowers of *G. sessilis* are reported to be either sweetly scented (*P.I. Forster* PIF28124, *R. Booth* & *R. Jensen*) or to have a pungent aroma (*C. Lyons* 152) at anthesis.

Etymology: The specific epithet is Latin and refers to the sessile flowers and fruits of the species.



Figure 1. Photograph of holotype of *Gynochtododes sessilis* Halford.



Map 1. Distribution of *Gynochtodes australiensis*▲ and *Gynochtodes sessilis*●.

Acknowledgements

I would like to thank Les Pedley for the translation of the diagnosis into Latin and Gordon Guymmer, Director of BRI, for making available working space and facilities at BRI.

References

- FORSTER, P.I. & HALFORD, D.A. (2002). Rubiaceae. In R.J.F. Henderson (ed.), 'Names and Distribution of Queensland Plants, Algae and Lichens.' pp. 173–177. (Environmental Protection Agency: Brisbane).
- JOHANSSON, J.T. (1988). A new species of *Gynochtodes* (Rubiaceae, Rubioideae) from Australia. *Australian Systematic Botany* 1(4): 369–372.